

Day 4: Informed Consumption of Evidence

Navigating the World of Evidence: A Practical Workshop for Effective Research

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1. Where do you get your evidence?
2. How to look for evidence?
3. Evaluating what you've found
4. AI tools for literature mapping
5. How to manage your literature?

Raise your hand if you:

- have experience conducting academic or policy research
- have used online databases to search for academic articles
- can define effective search strategies for literature reviews
- have evaluated the credibility and relevance of sources for your research
- are familiar with AI tools for literature mapping and evidence synthesis
- have used AI tools to enhance your research efficiency
- have compiled evidence from multiple sources for a research project
- have sorted and organized academic and policy evidence systematically
- have faced challenges in finding relevant research for your work
- have integrated findings from multiple studies into a coherent narrative
- have used bibliographic management software (e.g., Zotero, Mendeley)
- have taught or mentored others in research methodologies and best practices

Where do you get your evidence?

Why reviewing existing evidence matters

The Importance of Mapping the Literature

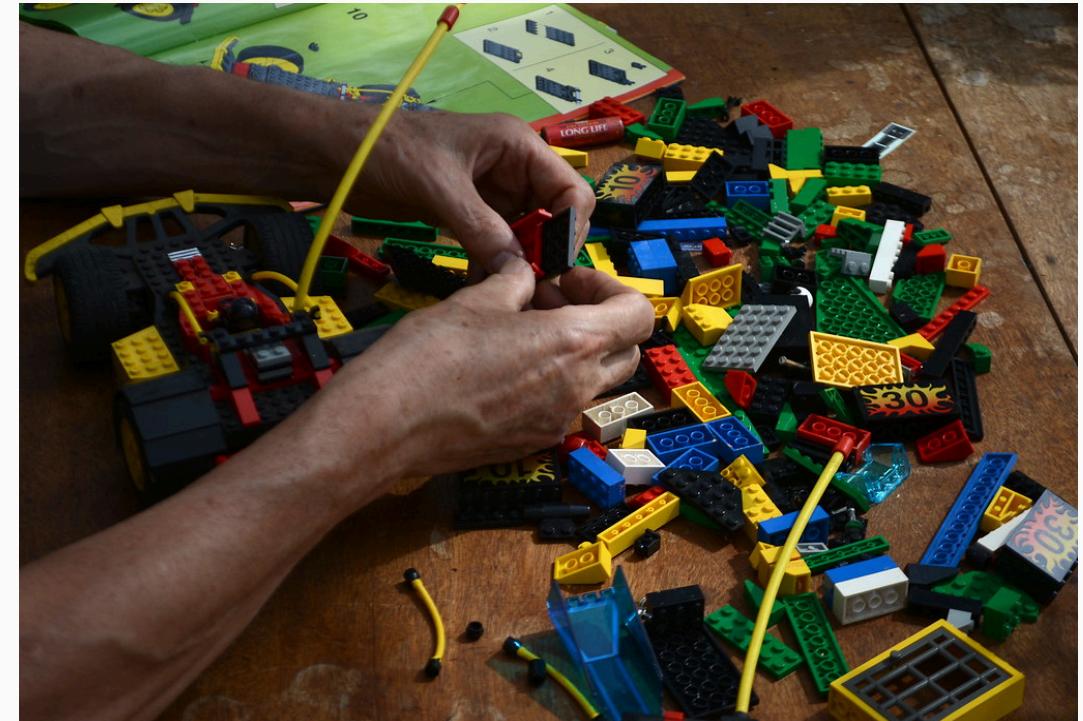
- **Comprehensive Understanding:** Mapping the literature provides a sharper picture of what research *has already been done*, helping to identify *gaps* and *avoid duplication*.
 - **Informed Decision-Making:** Access to a wide range of studies allows for more informed and evidence-based policy decisions.
 - **Contextual Insights:** Understanding the *historical and current trends* in the field can contextualize new findings within the broader landscape of knowledge.



Why reviewing existing evidence matters (cont.)

Knowledge Accumulation

- **Building on Previous Work:** Reviewing existing evidence helps in building upon prior research, *ensuring continuity and progress* in the field.
- **Innovative Solutions:** By understanding what has worked (and what hasn't) in the past, researchers and policymakers can *develop more innovative and effective solutions*.
- **Credibility, Certainty, and Rigor:** A thorough literature review can enhance your *certainty about potential actions*, as well as the credibility of your work, demonstrating a rigorous and methodical approach to research.

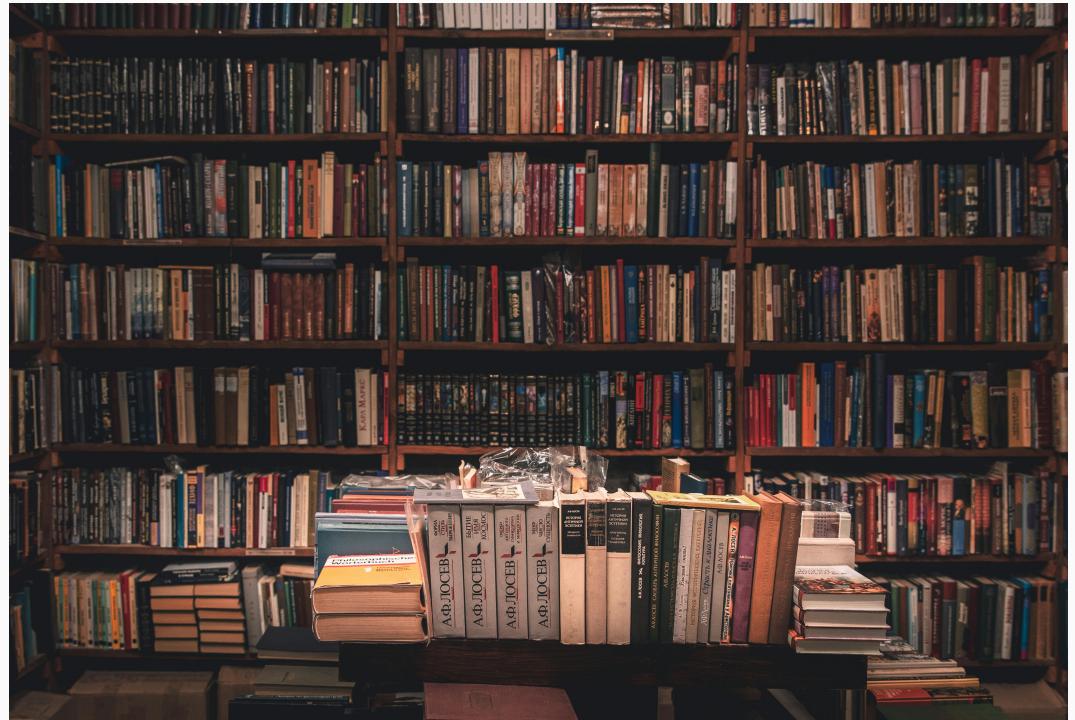


Research Databases and Tools

What is a Research Database?

A research database is an organized *collection of sources, data, and references* to academic articles, books, reports, and other scholarly materials, typically accessible online.

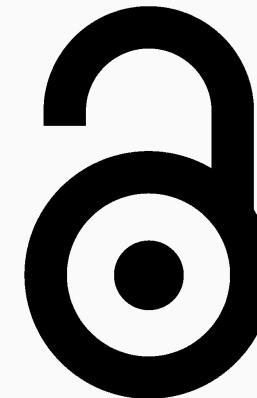
- Purpose: Designed to help researchers (*and users in general*) locate and retrieve relevant information quickly and efficiently.
- Features: Often includes search functionalities, filters, and tools to refine and manage results.





Traditional

- **Access:**
 - Restricted to subscribers or institutional members.
- **Cost:**
 - Often high subscription fees for institutions; individual articles can be expensive.
- **Reach:**
 - Limited to those who can afford access or have institutional subscriptions.
- **Copyright:**
 - Typically held by the publisher, with limited rights for authors to share their work.



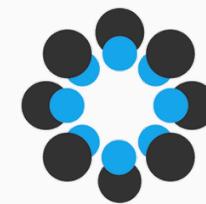
Open access

- **Access:**
 - Free and unrestricted access to everyone.
- **Cost:**
 - Often funded by author fees (Article Processing Charges, APCs) or institutional support.
- **Reach:**
 - Wider audience including researchers, practitioners, and the general public.
- **Copyright:**
 - Authors often retain copyright, with more freedom to share and distribute their work.

Preprints

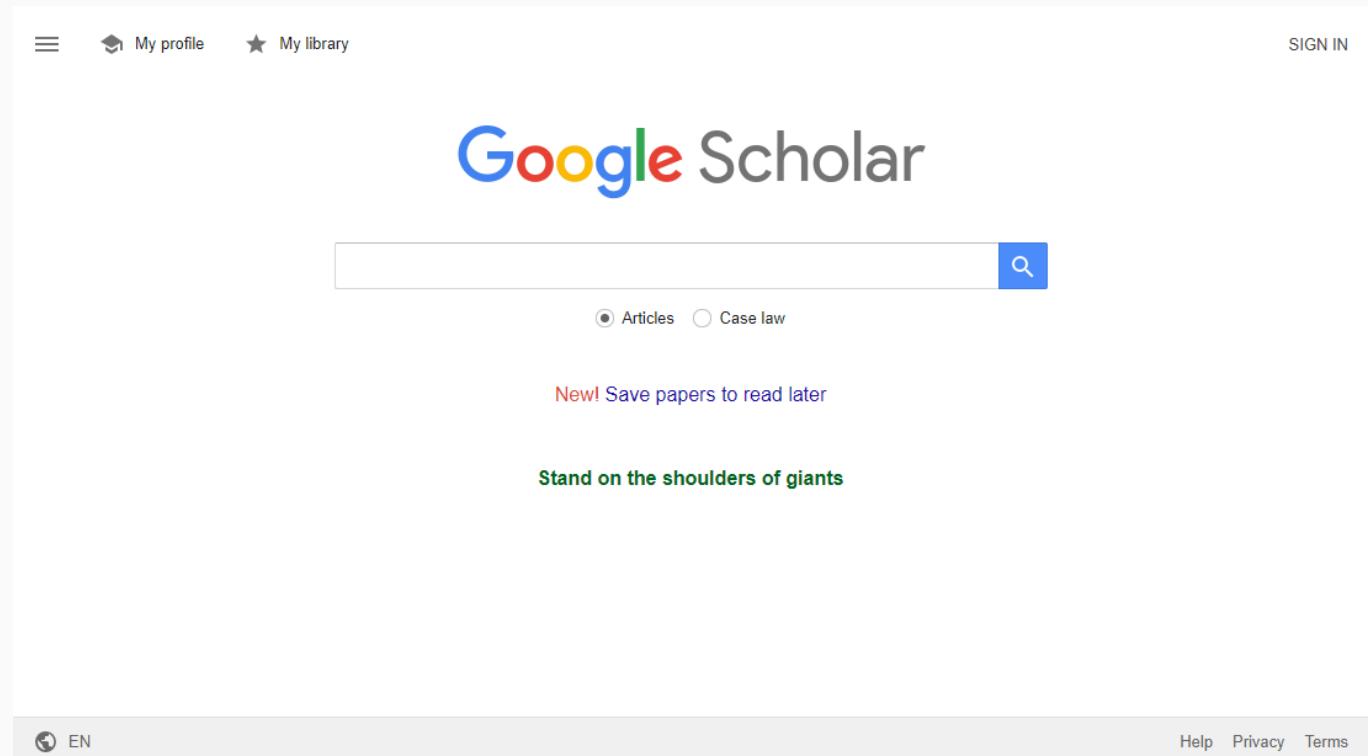
Early versions of research papers **shared publicly before formal peer review**.

- **Purpose:** Facilitate early dissemination of findings and foster feedback from the research community.
- **Platforms:** Common platforms include arXiv, OSF, Zenodo, and SSRN.
- **Benefits:**
 - Rapid Sharing: Accelerates the dissemination of research findings.
 - Community Feedback: Receives early input and suggestions from peers.
 - Visibility: Increases visibility and citation potential prior to formal publication.
- **Considerations:**
 - Quality Control: Lacks formal peer review initially.
 - Acceptance: Some journals may have policies regarding preprint submissions.



Overview of key databases

- **Google Scholar**
- JSTOR
- PubMed
- Scopus
- Web of Science
- OpenAlex



A freely accessible *web search engine* that indexes the full text or metadata of *scholarly literature* across an array of publishing formats and disciplines.

Overview of key databases

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Access provided by JCS

JSTOR Search Browse Tools About Support Search help

shakespeare

Refine Results

SEARCH WITHIN RESULTS

ACADEMIC CONTENT:

- Journals (185,692)
- Book Chapters (2,151)
- Research Reports (70)

PRIMARY SOURCE CONTENT:

- Images (10,561)
- Serials (3,737)
- Documents (1,251)
- Books (219)

DATE:
Enter as YYYY, YYYY/MM, or
YYYY/MM/DD

FROM

203,681 results

10,561 image results

Episodes de la vie de Shakespeare... : Hamlet [a set of 121 original drawings]... : Oeuvres Choisies de Shakespeare : Famous characters from Shakespeare,... : William Shakespeare, born... :

View all images

Sort by: Relevance Export Selected Citations

Download PDF

Save

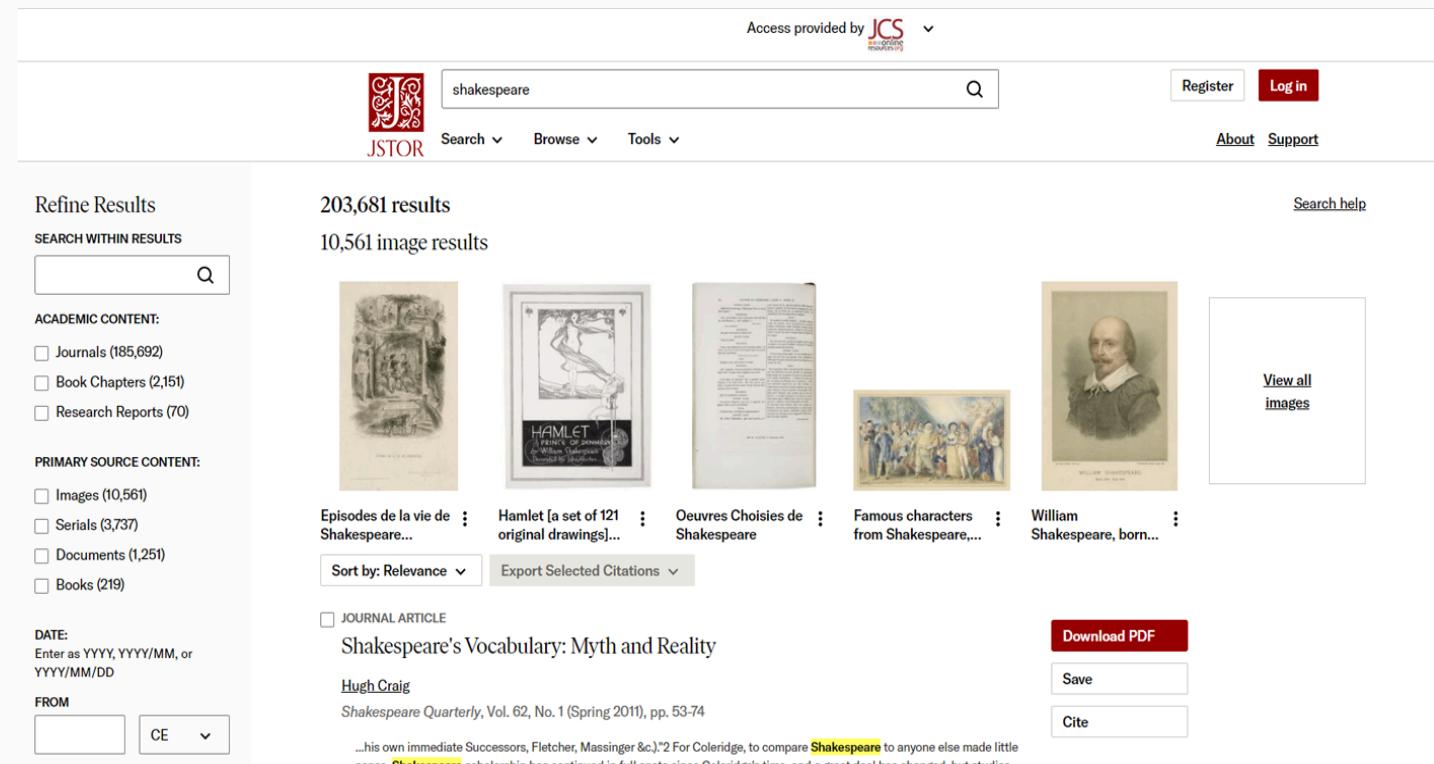
Cite

Shakespeare's Vocabulary: Myth and Reality

Hugh Craig

Shakespeare Quarterly, Vol. 62, No. 1 (Spring 2011), pp. 53-74

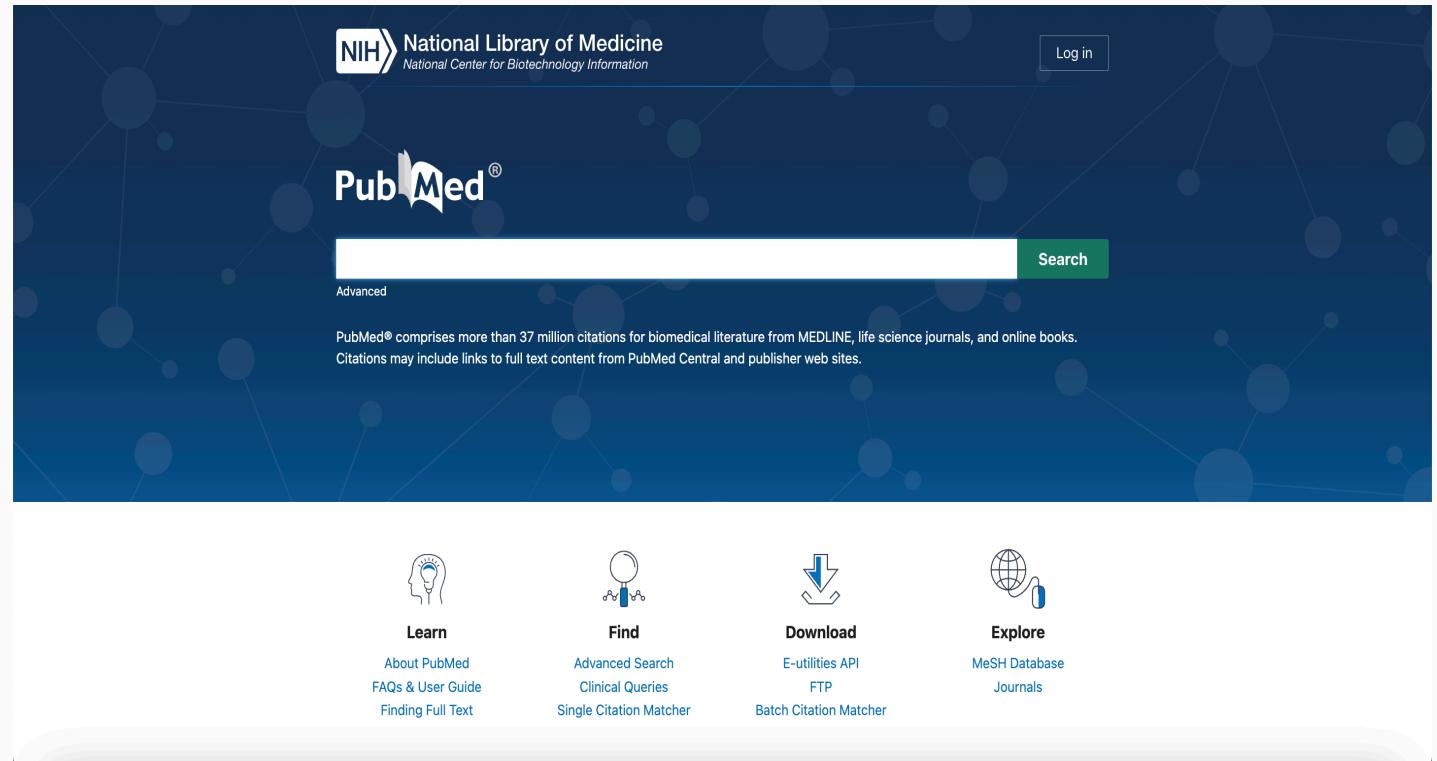
...his own immediate Successors, Fletcher, Massinger &c.)² For Coleridge, to compare Shakespeare to anyone else made little sense. Shakespeare scholarship has continued in full slate since Coleridge's time, and a great deal has changed, but studies



A *subscription digital library* of academic journals, books, and primary sources, containing digitized back issues of academic journals in the *humanities and social sciences*.

Overview of key databases

- Google Scholar
- JSTOR
- **PubMed**
- Scopus
- Web of Science
- OpenAlex



A *free database* including primarily references and abstracts on *life sciences and biomedical* topics maintained by The United States National Library of Medicine (NLM).

Overview of key databases

- Google Scholar
- JSTOR
- PubMed
- **Scopus**
- Web of Science
- OpenAlex

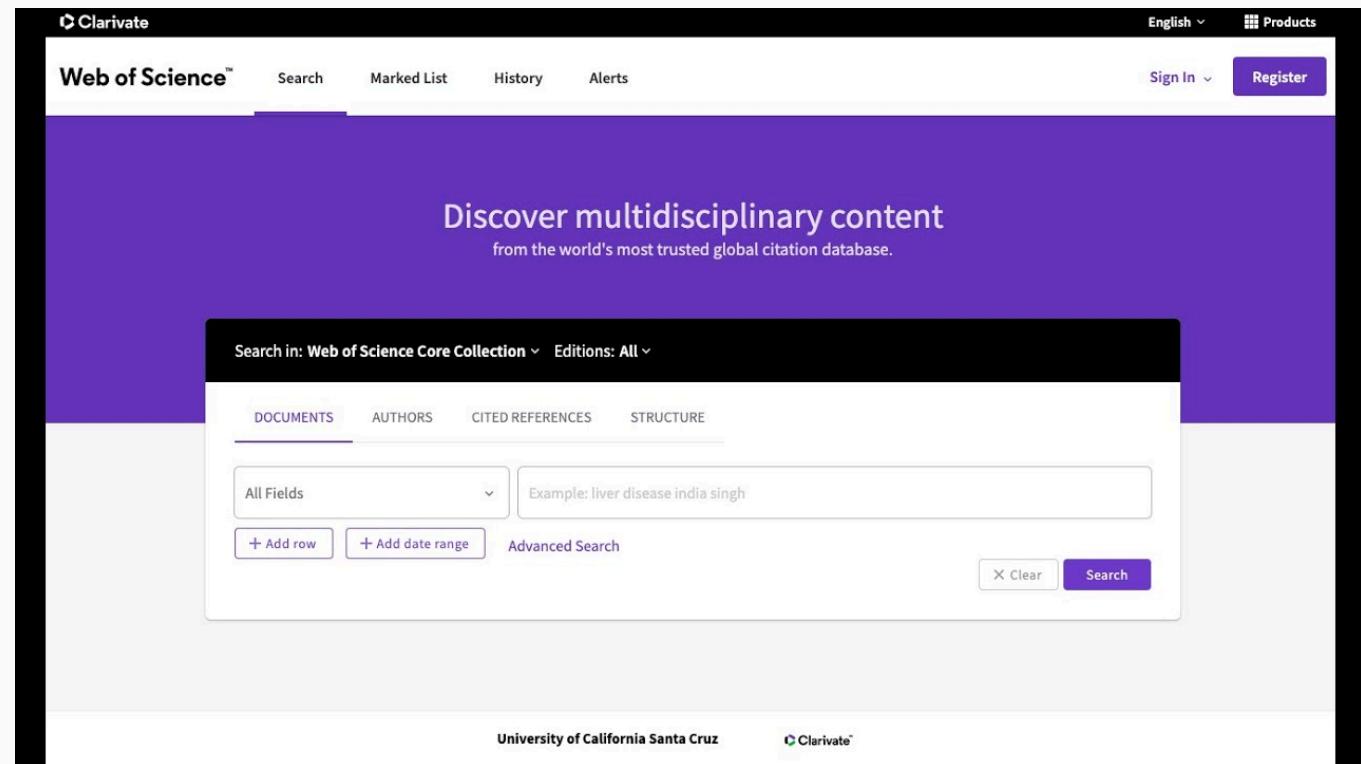
The screenshot shows the Scopus search interface. At the top, it displays "105,248 document results" for the query "TITLE-ABS-KEY ("solar energy")". Below the search bar, there are options to "Edit", "Save", "Set alert", and "Set feed". The main search results are presented in a table with columns for "Document title", "Authors", "Year", "Source", and "Cited by". The first result is a study titled "Cu₂O photocathodes with band-tail states assisted hole transport for standalone solar water splitting" by Pan, L., Liu, Y., Yao, L., et al., published in Nature Communications in 2020. The result is marked as "Open Access". A tooltip over the "Analyze search results" button indicates: "Click on Analyze search results to view search results displayed in various graph formats".

Document title	Authors	Year	Source	Cited by
Cu ₂ O photocathodes with band-tail states assisted hole transport for standalone solar water splitting	Pan, L., Liu, Y., Yao, L., (...), Grätzel, M., Hagfeldt, A.	2020	Nature Communications 11(1),318	0

A *subscription abstract and citation database* by the academic publisher Elsevier covering *life, social, physical, and health sciences*.

Overview of key databases

- Google Scholar
- JSTOR
- PubMed
- Scopus
- **Web of Science**
- OpenAlex



A *paid-access platform* that provides access to multiple databases that provide reference and citation data from academic journals, conference proceedings, and other documents in *various academic disciplines*.

Overview of key databases

- Google Scholar
- JSTOR
- PubMed
- Scopus
- Web of Science
- **OpenAlex**



An *open catalog* of publication sources, author information, and research topics. It also shows connections between these data points to provide a comprehensive, *interlinked view of the global research system*.

[Get Started](#) [Products](#) [Integrations](#) [About](#)

An open database of 50,163,270 free scholarly articles.

We harvest Open Access content from over 50,000 publishers and repositories, and make it easy to find, track, and use.

[GET THE EXTENSION](#)

You can download the Google Chrome extension

Overview of key policy specific databases

Overton

- Searchable database of policy documents, guidelines, think tank publications, and working papers.
- Data collected from 188 countries and over 1,000 sources.
- Parses documents to find references, people, and key concepts.
- Links content to news stories, academic research, and other policy outputs.
- Enables tracking of citations and mentions of your work.
- Helps identify real-world impact and influence of your ideas and reports.

The screenshot shows the Overton website homepage. At the top, there is a navigation bar with links for 'Overton for...', 'About', 'Resources', 'News', 'Collaborations', a 'Request a free trial' button, and a 'Sign in' button. Below the navigation bar, the word 'overton' is written in lowercase. The main headline reads 'Is your work influencing policy?'. Below the headline, a subtext says 'We help universities, think tanks and publishers understand the reach and influence of their research'. To the right of the subtext, there is a tablet displaying a detailed report for Stanford University. The report includes a table of counts for various categories like Science And Technology, Health, Education, and Environment, followed by a bar chart showing the number of citing documents from 2006 to 2016. On the left side of the tablet, there is a thumbnail image of a book cover titled 'Parliamentary Sovereignty and the Politics of Prorogation' by Richard Eids. To the right of the tablet, there is a small newspaper clipping with the headline 'FEATURE A safe operating space for humanity'.

Overview of key *policy specific* databases

Policy Commons

- Access exclusive reports from over 30,000 policy organizations, including overlooked small entities.
- Features documents from 210 countries, with unique content from the Global South.
- Includes 500,000 pages of "lost" research from 670+ inactive think tanks, adding 100,000 pages annually.
- Advanced search capabilities: phrase searching, Boolean operators, fielded searching, and NEAR searching.

The screenshot shows the Policy Commons website interface. At the top, there is a navigation bar with the 'Policy Commons' logo, a search bar, and links for 'Organizations', 'Publications', 'Topics', 'Tables', 'Lists', and 'Modules'. The main search bar contains the query: 'India NEAR agriculture finance AND "small farms" net-zero AND NOT mathematics elections NEAR trust'. Below the search bar, there are three large cards displaying statistics: '25,701 Organizations', '5,188,382 Publications', and '3,396 Topics'. The 'Topics' card has a circled yellow border around its number and icon.

Category	Count
Organizations	25,701
Publications	5,188,382
Topics	3,396

How to look for evidence?

The first step is to identify your search terms (i.e., what you're looking for)

- **Identify your keywords**

- Consider alternative keywords
- Spelling and terminology variants
- Subject specific terminology
- Acronyms and abbreviations
- Terminology change over time

- **Identify experts and key contributors**

- Who are the key thinkers, writers, and experts in your research area?
- It may be worth including these names in your searches
- Some background reading will be helpful

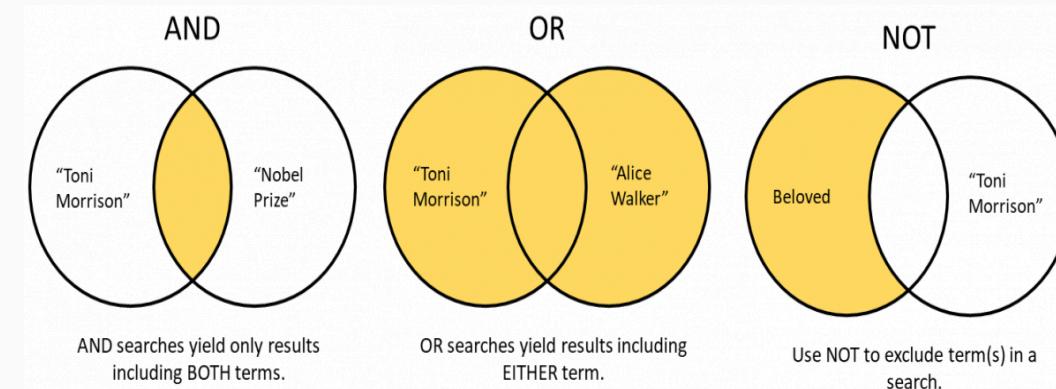
A next step is to combine your search terms

- **Boolean searches**

- AND, OR and NOT operators
- Grouping terms with parentheses ()
- Explicit search with quotation marks "

- **Wildcards**

- Truncate with an asterisk ?
- Greedy search with an asterisk *
- Phrase search around quotation marks "



Source: Duke University Libraries

red AND (automobile OR car)

red AND (auto* OR "race car")

Let's collect some literature!

Do a quick **Google Scholar** search for studies on the effects of conditional cash transfers on education)

Evaluating what you've found

Evaluating sources (cont.)

Many librarians encourage the *CRAAP test*¹ as a starting point to evaluate the suitability of the sources.

- **Currency**: The **timeliness** of the information.
 - When was the information published or posted?
 - Has it been revised or updated?
 - Do you need the most current information for your topic?



¹This is a simplification of a very complex evaluation process. We will think deeper about this next session.

Evaluating sources (cont.)

Many librarians encourage the *CRAAP test*¹ as a starting point to evaluate the suitability of the sources.

- **Relevance**: The **importance** of the information for **your needs**.

- Does the information directly relate to your topic?
- Does it help you answer questions?
- Who is the intended audience?



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Evaluating sources (cont.)

Many librarians encourage the *CRAAP test*¹ as a starting point to evaluate the suitability of the sources.

- **Authority**: The **source** of the information.
 - Who is the author or publisher?
 - Are they qualified to write about the topic?
 - “Peer reviewed” is a good indicator for this



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Evaluating sources (cont.)

Many librarians encourage the *CRAAP test*¹ as a starting point to evaluate the suitability of the sources.

- **Accuracy**: The **reliability** and correctness of the information.
 - Is the information supported by evidence?
 - Can you verify the information with another source?
 - Has the information been reviewed or refereed?
 - Does the language seem unbiased and free of emotion?
 - Can you identify any spelling, grammar or typographical errors?



¹This is a simplification of a very complex evaluation process. We will think deeper about this next session.

Evaluating sources (cont.)

Many librarians encourage the *CRAAP test*¹ as a starting point to evaluate the suitability of the sources.

- **Purpose**: The **reason** the information **exists**.
 - What is the purpose of the information?
 - Does the point of view appear objective and impartial?
 - Is the information fact, opinion or propaganda?
 - Are there political, ideological, cultural, religious, institutional or personal biases?



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Employing lateral reading, that is evaluating the credibility of a source by comparing it with other sources.

- **Verify the Source**: Determine the credibility of the organization or institution that published the document. Ask questions such as:
 - Who funds or sponsors the organization or think tank?
 - What is their reputation and track record in producing accurate and unbiased research?
 - Are there any known biases associated with the organization?
- **Check for Independent Analysis**: Look for analyses or critiques of the policy document from other reputable sources. Consider:
 - Are there other organizations or experts in the field who have reviewed or commented on the document?
 - Do they offer different perspectives or highlight any inconsistencies or shortcomings?
- **Evaluate Authorship and Expertise**: Assess the qualifications and expertise of the authors or researchers behind the document. Consider:
 - What are their credentials and affiliations?
 - Have they published other works in the field, and what is the reception of those works?
 - Are there any conflicts of interest that might influence their findings or conclusions?

Employing lateral reading, that is evaluating the credibility of a source by comparing it with other sources.

- **Weigh against Counterarguments**: Seek outcounterarguments to the policy proposals or recommendations presented in the document. Ask yourself:
 - How do other organizations or experts interpret the same data or evidence?
 - Are there dissenting opinions within the academic or policy community?
 - Do alternative analyses provide a more comprehensive understanding of the issue?
- **Cross-Reference with Established Facts**: Verify any factual claims or statistics cited in the document by consulting reliable sources or databases. Consider:
 - Are the data sources cited in the document reputable and up-to-date?
 - Do the findings align with established research or empirical evidence?
 - Have fact-checking organizations or experts reviewed the accuracy of the information?

AI tools for literature mapping

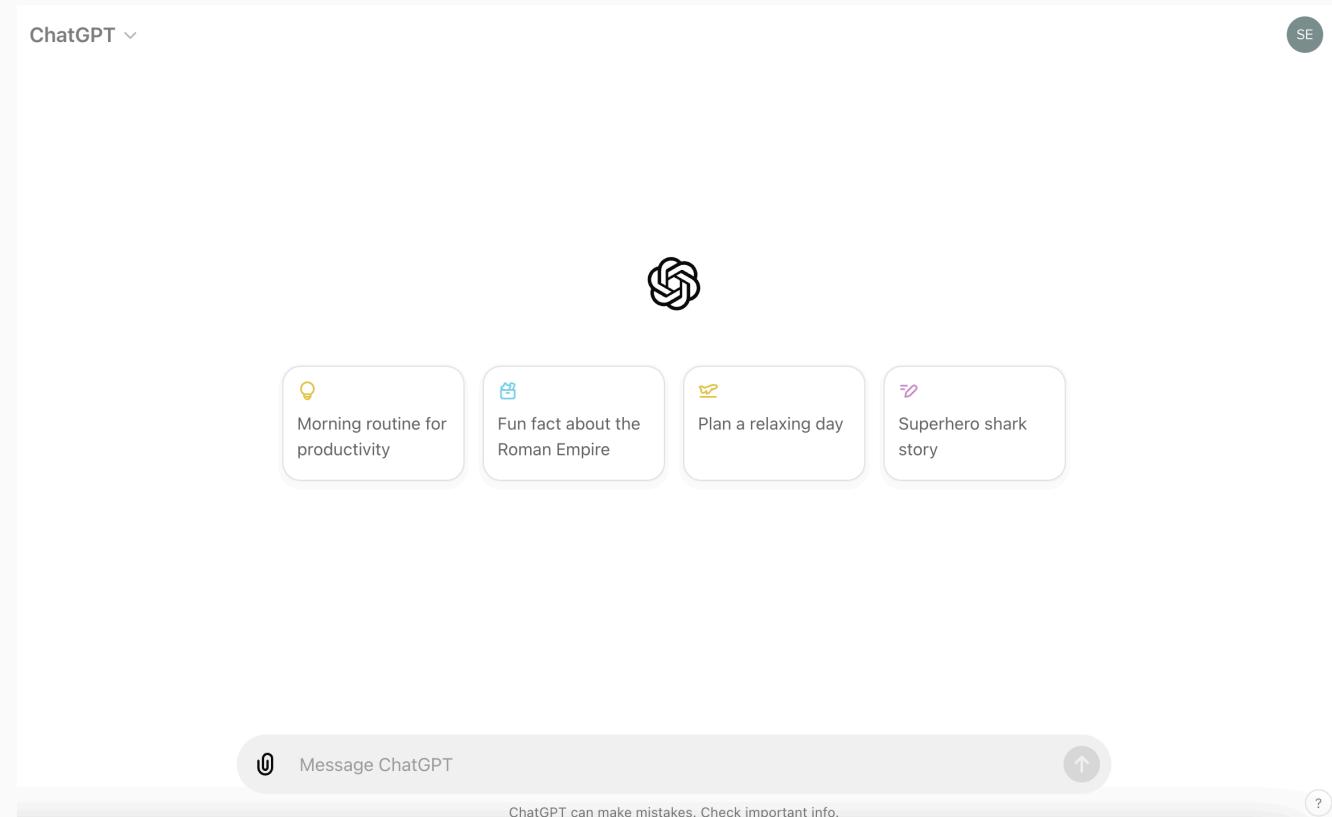
Introduction to AI Tools

Multitools

- **Chatbots** (ChatGPT, Gemini, Microsoft Copilot)

Specific keys

- Open source apps (e.g., [citationchaser](#))
- Literature mapping tools (Elicit, Litmaps, Research Rabbit, Concensus, Scite)



Multitools

- Chatbots (ChatGPT, Gemini, Microsoft Copilot)

Specific keys

- **Open source apps** (e.g., citationchaser)
- Literature mapping tools (Elicit, Litmaps, Research Rabbit, Concensus, Scite)

citationchaser Home Article input References Citations Analysis Network

Welcome to citationchaser!

In searching for research articles, we often want to obtain lists of references from across studies, and also obtain lists of articles that cite a particular study. In systematic reviews, this supplementary search technique is known as "citation chasing": forward citation chasing looks for all records citing one or more articles of known relevance; backward citation chasing looks for all records referenced in one or more articles.

Traditionally, this process would be done manually, and the resulting records would need to be checked one-by-one against included studies in a review to identify potentially relevant records that should be included in a review.

This package contains functions to automate this process by making use of the Lens.org API. An input article list can be used to return a list of all referenced records, and/or all citing records in the Lens.org database (consisting of PubMed, PubMed Central, CrossRef, Microsoft Academic Graph and CORE); [read more here](#).

Large searches may take several minutes to complete, so please be patient.

Consider asking your library to support Lens.org to continue to enable Open Discovery of research articles.

Follow these steps to start chasing!

→ In the "Article input" tab, paste a list of article identifiers (e.g. DOIs)

→ Check the articles returned are the ones you're interested in

→ If you want to perform backward citation chasing (which articles did my articles reference?) then proceed to the "References" tab and click "Search for all referenced articles in Lens.org"

→ If you want to perform forward citation chasing (which articles have cited my articles?) then proceed to the "Citations" tab and click "Search for all citing articles in Lens.org"

→ You can download in RIS format a list of your input articles, referenced articles, and citing articles for easy integration with your reference/review management workflow

→ Once you have finished citation chasing, why not check out the citation network visualisation in the "Network" tab? Please be aware that large citation networks (many or highly cited starting articles) may take considerable time to load.

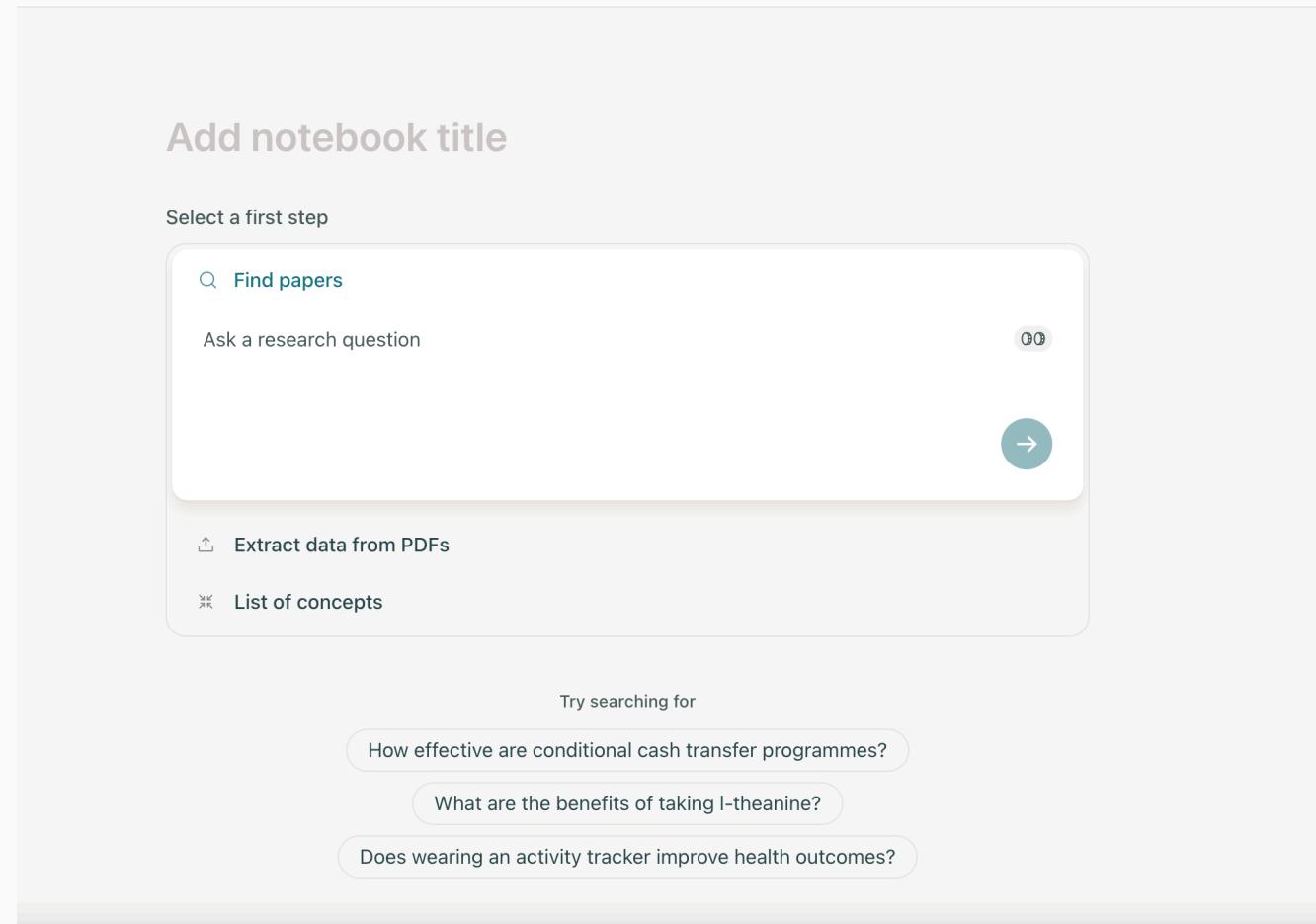


Multitools

- Chatbots (ChatGPT, Gemini, Microsoft Copilot)

Specific keys

- Open source apps (e.g., citationchaser)
- **Literature mapping tools**
(Elicit, Litmaps, Research Rabbit, Concensus, Scite)



Limitations of AI tools

- **Quality of Data Input:** AI tools heavily rely on the quality and relevance of the data inputted. If the initial data used to train the AI model is biased or incomplete, it can affect the accuracy of the results generated by the tool. (**Garbage in/garbage out**)
- **Limited Contextual Understanding:** AI tools may lack the ability to understand the broader context of a research topic or the specific needs of a policymaker. This can lead to oversights or inaccuracies in the synthesis of evidence.
- **Inability to Handle Ambiguity:** AI tools may struggle with ambiguity or uncertainty present in research literature. They may not effectively handle conflicting findings or nuanced interpretations, which are common in complex policy areas.
- **Risk of Overlooking Unconventional Sources:** AI tools often prioritize well-established sources and may overlook valuable insights from non-traditional or emerging sources of evidence, such as preprints, grey literature, or community reports.
- **Difficulty in Adapting to Rapidly Evolving Fields:** In fast-paced fields where new research emerges frequently, AI tools may struggle to keep pace with the latest developments and may not provide up-to-date synthesis of evidence.

Limitations of AI tools

- **Lack of Transparency:** Some AI algorithms operate as black boxes, meaning they lack transparency in how they arrive at their conclusions. This can make it challenging for users to understand and interpret the rationale behind the recommendations or results provided by the tool.
- **Dependency on Technical Skills:** Using AI tools often requires a certain level of technical proficiency, including understanding how to interpret and adjust algorithm parameters. This can create barriers for users who lack the necessary skills or training.
- **Cost and Accessibility:** Some AI-powered tools may come with significant costs or subscription fees, making them inaccessible to users with limited budgets or resources, particularly in resource-constrained settings.
- **Ethical Considerations:** AI tools may inadvertently perpetuate biases present in the data or algorithm design, leading to unintended consequences such as reinforcing existing disparities or overlooking marginalized voices.
- **Human Oversight and Validation Required:** Despite the automation provided by AI tools, human oversight and validation are still essential to ensure the accuracy, relevance, and ethical integrity of the synthesized evidence.
- **LLMs tend to hallucinate sources**

How to manage your literature?

A software tool that helps researchers **collect, organize, cite, and share references** for academic writing and research projects.

Functions

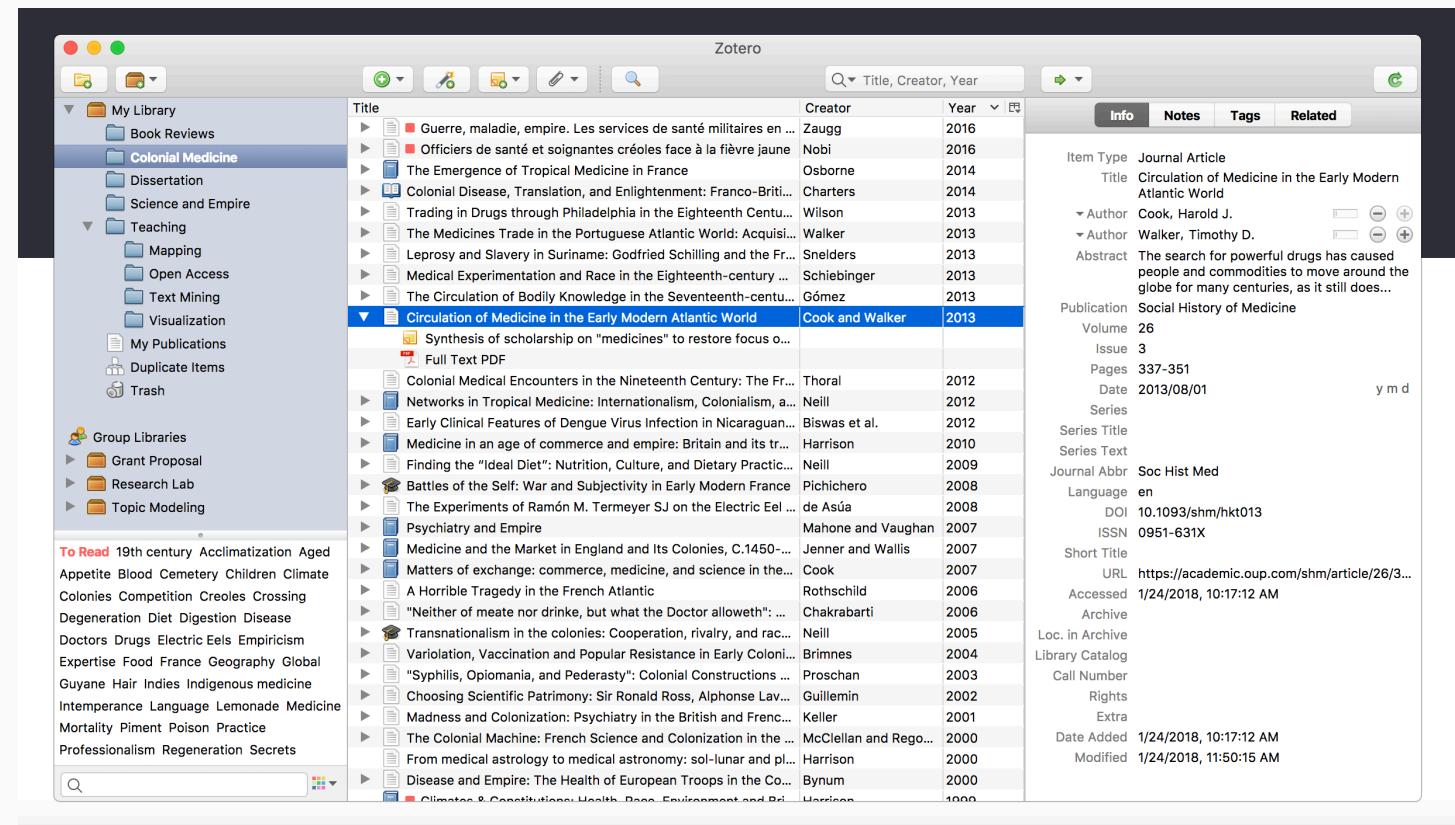
- **Reference Collection :**
 - Save citations from databases, websites, and PDFs.
 - Import references from various sources.
- **Organization :**
 - Create libraries and folders to categorize references.
 - Use tags and notes for better organization.
- **Citation and Bibliography Generation :**
 - Automatically generate in-text citations and bibliographies in multiple citation styles (e.g., APA, MLA, Chicago).
 - Seamlessly integrate with word processors like Microsoft Word, Google Docs, and Overleaf.
- **Collaboration :**
 - Share libraries with colleagues.
 - Collaborate on projects with group libraries.
- **PDF Management :**
 - Store, annotate, and organize PDFs and other documents.

Software recommendations

Zotero

Zotero is a free, open-source, citation manager.

- Web Browser Integration: Save references directly from your web browser.
- PDF Management: Annotate and organize PDFs.
- Tagging and Notes: Use tags and notes to organize and comment on your references.
- Group Libraries: Collaborate with others by sharing references in group libraries.
- Citation Styles: Supports thousands of citation styles for generating bibliographies.



Other solutions

- Mendeley, EndNote, RefWorks, Citavi

Questions?
